Rec'd PCT/PTO 12 JUL 2004

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



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(43) International Publication Date 17 July 2003 (17.07.2003)

PCT

(10) International Publication Number WO 03/057358 A1

(51) International Patent Classification7:

- (21) International Application Number: PCT/CA03/00016
- (22) International Filing Date: 10 January 2003 (10.01.2003)
- (25) Filing Language:

English

B01J 8/06

(26) Publication Language:

English

(30) Priority Data:

10/046,109

12 January 2002 (12.01.2002) US

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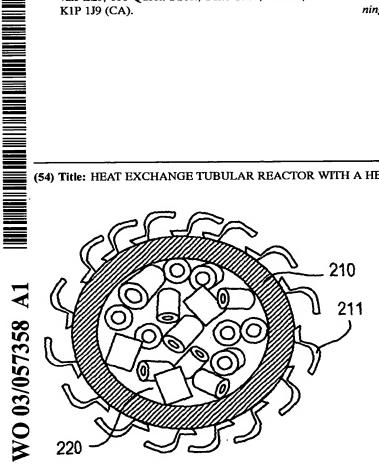
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: HEAT EXCHANGE TUBULAR REACTOR WITH A HEAT PIPE



(57) Abstract: A vapor-phase tubular reactor in a shell heat exchanger for removal of the heat of reaction at essentially isothermal conditions has porous wicking surface (211) applied to the external surface of reactor tubes (210). The porous wicking surface on the reactor tubes draws liquid heat transfer fluid from a reservoir at the bottom of the wicked tube section and provides enhanced evaporative cooling. The invention is particularly useful for highly exothermic reactions or when reaction selectivity is negatively affected by high temperature excursions.

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